Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-11. (Cancelled)

12. (Currently Amended) An immunoassay method for determining the concentration of dioxins in a sample, the method comprising the following steps:

1) allowing target dioxins in the sample and

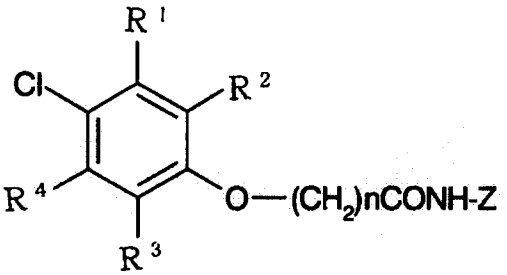
a competitive antigen

to competitively react with a primary anti-dioxin antibody capable of binding to the target dioxins, and

determining the amount of competitive antigen-antibody complex from a label incorporated into a secondary antibody binding to the primary antibody~~,~~ ;

2) allowing the competitive antigen and

a compound of formula (1) of known concentration



(1)

wherein R^1, R^2, R^3 and R^4 may be the same or different and each represents chlorine or hydrogen, n is an integer from 1 to 10, and Z ~~is an amino acid residue or peptide~~ represents 1 to 100 amino acid residues

to competitively react with the primary anti-dioxin antibody, and

determining the amount of competitive antigen-antibody complex from a label incorporated into a secondary antibody binding to the primary antibody;

3) preparing a calibration curve using the amount of competitive antigen-antibody complex determined in step 2); and

4) comparing the amount of competitive antigen-antibody complex determined in step 1) with the calibration curve prepared in step 3).

13. (Previously Presented) The immunoassay method according to claim 12, wherein the competitive antigen is a compound of formula (1) wherein Z is a carrier protein.

14. (Previously Presented) The immunoassay method according to claim 12, wherein the label is an enzyme, a radioactive substance, or a fluorescent substance.

15. (Previously Presented) The immunoassay method according to claim 12, wherein in formula (1), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents 1 to 3 amino acid residues.

16. (Currently Amended) The immunoassay method according to claim 12, wherein in formula (1), R^2 and R^3 are chlorine, R^1 and R^4 are hydrogen, n is ~~2~~ 5, and Z represents 1 to ~~3~~ 4 amino acid residues.

17. (Currently Amended).

An immunoassay method for determining the concentration of dioxins in a sample, the method comprising the following steps:

1) allowing target dioxins in the sample and

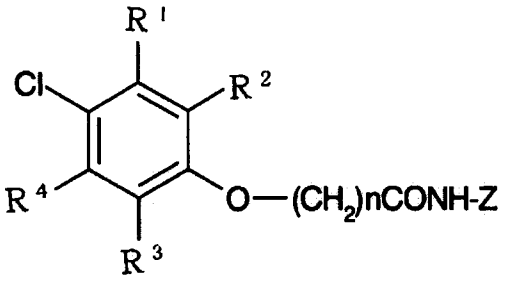
a labeled competitive antigen

to competitively react with a primary anti-dioxin antibody capable of binding to the target dioxins, and

determining the amount of competitive antigen-antibody complex from a label incorporated into the competitive antigen;

2) allowing the competitive antigen and

a compound of formula (1) of known concentration



(1)

wherein R^1, R^2, R^3 and R^4 may be the same or different and each represents chlorine or hydrogen, n is an integer from 1 to 10, and Z ~~is an amino acid residue or peptide~~ represents 1 to 100 amino acid residues

to competitively react with the primary anti-dioxin antibody, and

determining the amount of competitive antigen-antibody complex from a label incorporated into the competitive antigen;

3) preparing a calibration curve using the amount of competitive antigen-antibody complex determined in step 2); and

4) comparing the amount of competitive antigen-antibody complex determined in step 1) with the calibration curve prepared in step 3).

18. (Previously Presented) The immunoassay method according to claim 17, wherein the competitive antigen is a compound of formula (1) wherein Z is a carrier protein.

19. (Previously Presented) The immunoassay method according to claim 17, wherein the label is an enzyme, a radioactive substance or a fluorescent substance.

20. (Previously Presented) The immunoassay method according to claim 17, wherein in formula (1), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents 1 to 3 amino acid residues.

21. (Currently Amended) The immunoassay method according to claim 17, wherein in formula (1), R^2 and R^3 are chlorine, R^1 and R^4 are hydrogen, n is ~~2~~ 5, and Z represents 1 to ~~3~~ 4 amino acid residues.

22. (Currently Amended) A method of evaluating the toxic equivalent (TEQ) of dioxins in a sample, the method comprising the following steps:

1) allowing target dioxins in the sample and

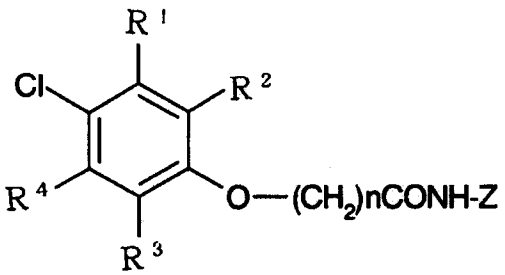
a competitive antigen

to competitively react with a primary anti-dioxin antibody capable of binding to the target dioxins, and

determining the amount of competitive antigen-antibody complex from a label incorporated into a secondary antibody binding to the primary antibody~~,~~ ;

2) allowing the competitive antigen and

a compound of formula (1) of known concentration



(1)

wherein R^1, R^2, R^3 and R^4 may be the same or different and each represents chlorine or hydrogen, n is an integer from 1 to 10, and Z ~~is an amino acid residue or peptide~~ represents 1 to 100 amino acid residues

to competitively react with the primary anti-dioxin antibody, and

determining the amount of competitive antigen-antibody complex from a label incorporated into a secondary antibody binding to the primary antibody;

3) preparing a calibration curve using the amount of competitive antigen-antibody complex determined in step 2);

4) comparing the amount of competitive antigen-antibody

complex determined in step 1) with the calibration curve prepared in step 3); and

5) calculating the TEQ of dioxins in a sample.

23. (Previously Presented) The method according to claim 22, wherein the competitive antigen is a compound of formula (1) wherein Z is a carrier protein.

24. (Previously Presented) The method according to claim 22, wherein the label is an enzyme, a radioactive substance or a fluorescent substance.

25. (Previously Presented) The method according to claim 22, wherein in formula (1), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents 1 to 3 amino acid residues.

26. (Currently Amended) The method according to claim 22, wherein in formula (1), R^2 and R^3 are chlorine, R^1 and R^4 are hydrogen, n is ~~2~~ 5, and Z represents 1 to ~~3~~ 4 amino acid residues.

27. (Currently Amended) A method of evaluating the toxic equivalent (TEQ) of dioxins in a sample, the method comprising the following steps:

1) allowing target dioxins in the sample and

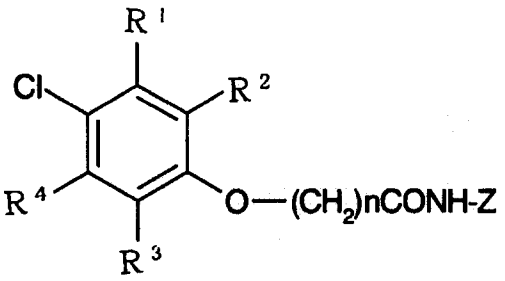
a labeled competitive antigen

to competitively react with a primary anti-dioxin antibody capable of binding to the target dioxins, and

determining the amount of competitive antigen-antibody complex from a label incorporated into the competitive antigen;

2) allowing the competitive antigen and

a compound of formula (1) of known concentration



(1)

wherein R^1, R^2, R^3 and R^4 may be the same or different and each represents chlorine or hydrogen, n is an integer from 1 to 10, and Z ~~is an amino acid residue or peptide~~ represents 1 to 100 amino acid residues

to competitively react with the primary anti-dioxin antibody, and

determining the amount of competitive antigen-antibody complex from a label incorporated into the competitive antigen;

3) preparing a calibration curve using the amount of competitive antigen-antibody complex determined in step 2);

4) comparing the amount of competitive antigen-antibody complex determined in step 1) with the calibration curve prepared in step 3); and

5) calculating the TEQ of dioxins in a sample.

28. (Previously Presented) The method according to claim 27, wherein the competitive antigen is a compound of formula (1) wherein Z is a carrier protein.

29. (Previously Presented) The method according to claim 27, wherein the label is an enzyme, a radioactive substance or a fluorescent substance.

30. (Previously Presented) The method according to claim 27, wherein in formula (1), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents 1 to 3 amino acid residues.

31. (Currently Amended) The method according to claim 27, wherein in formula (1), R^2 and R^3 are chlorine, R^1 and R^4 are hydrogen, n is ~~2~~ 5, and Z represents 1 to ~~3~~ 4 amino acid residues.

32. (New) The method according to claim 12, wherein in formula (1), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents glycylglycine.

33. (New) The method according to claim 12, wherein in formula (1) used in step 2), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents glycylglycine and the competitive antigen is a compound of formula (1) wherein R^1, R^2, R^3, and R^4 are, independently, a chlorine or hydrogen atom, n is an integer from 1 to 10, and Z is a carrier protein.

34. (New) The method according to claim 17, wherein in formula (1), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents glycylglycine.

35. (New) The method according to claim 17, wherein in formula (1) used in step 2), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents glycylglycine and the competitive antigen is a compound of formula (1) wherein R^1, R^2, R^3, and R^4 are, independently, a chlorine or hydrogen atom, n is an integer from 1 to 10, and Z is a carrier protein.

36. (New) The method according to claim 22, wherein in formula (1), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents glycylglycine.

37. (New) The method according to claim 22, wherein in formula (1) used in

step 2), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents glycylglycine and the competitive antigen is a compound of formula (1) wherein R^1, R^2, R^3, and R^4 are, independently, a chlorine or hydrogen atom, n is an integer from 1 to 10, and Z is a carrier protein.

38. (New) The method according to claim 27, wherein in formula (1), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents glycylglycine.

39. (New) The method according to claim 27, wherein in formula (1) used in step 2), R^2 and R^4 are chlorine, R^1 and R^3 are hydrogen, n is 5, and Z represents glycylglycine and the competitive antigen is a compound of formula (1) wherein R^1, R^2, R^3, and R^4 are, independently, a chlorine or hydrogen atom, n is an integer from 1 to 10, and Z is a carrier protein.